

# ABSTRACT

A<sub>2</sub> An apparatus, including a settling chamber having a top section and a bottom section. An outlet port is positioned on the top section and an inlet port is positioned on the bottom section. The ratio of height to width of the settling chamber is greater than 0.7. A gas fluidized particle stream is introduced through the inlet port at a given velocity. A gas stream flow pattern is established within the settling chamber. One group of particles is retarded from transportation to the outlet port and the transportation of another group of particles is facilitated to the outlet port.